What is claimed is:

1. A free-space optical communication system comprising:

a transmitter configured to encode and transmit over free-space, information in at least two discrete optical carrier signals; and

a receiver configured to receive and decode the information from said discrete optical carrier signals.

2. The system of claim 1 wherein said transmitter is configured to encode digital information into at least two discrete optical carrier signals.

3. The system of claim 2 wherein said discrete optical carrier signals include a first carrier signal and a second carrier signal;

said first carrier signal including information corresponding to logical 1's; and

said second carrier signal including information corresponding to logical 0's.

4. The system of claim 2 wherein said discrete optical carrier signals include a first carrier signal and a second carrier signal;

said transmitter being configured to communicate a logical 1 by transmitting a positive amplitude optical pulse at a first carrier wavelength and to communicate a logical 0 by transmitting a positive amplitude optical pulse at a second carrier wavelength.

5. The system of claim 1 wherein said transmitter is configured to transmit at least two distinct optical beams; each beam comprising at least one of said discrete optical carrier signals.

6. The system of claim 5 wherein said receiver is configured to receive at least two distinct beams, each beam comprising at least one of said discrete optical carrier signals.

7. The system of claim 1 wherein said transmitter comprises at least one multiplexer to multiplex said optical signals.

8. The system of claim 7 wherein said receiver comprises at least one demultiplexer to demultiplex said optical signals.

9. The system of claim 1 wherein each of said at least two discrete optical carrier signals comprises a carrier wavelength in the range of about 300 to about 10,000 nanometers.

10. The system of claim 9 wherein each of said at least two discrete optical carrier signals comprises a carrier wavelength in the range of about 300 to about 1,500 nanometers.

11. The system of claim 9 wherein each of said at least two discrete optical carrier signals comprises a carrier wavelength in the range of about 1,500 to about 10,000 nanometers.

12. The system of claim 9 wherein said discrete optical carrier signals comprise a first carrier wavelength and a second carrier wavelength, in which the difference between said first carrier wavelength and said second carrier wavelength is less than about 100 nanometers.

13. The system of claim 9 wherein said discrete optical carrier signals comprise a first carrier wavelength and a second carrier wavelength, in which the difference between said first carrier wavelength and said second carrier wavelength is greater than about 1000 nanometers.

14. The system of claim 1 wherein said transmitter is configured to change a carrier wavelength of each of said at least two discrete optical carrier signals.

15. The system of claim 14 wherein said transmitter is configured to change the carrier wavelength of each of said at least two discrete optical carrier signals from being within a range from about 300 to about 1,500 nanometers to being within a range from about 1,500 to about 10,000 nanometers.

16. The system of claim 14 wherein said transmitter is configured to change the carrier wavelength of each of said at least two discrete optical carrier signals from being within a range from about 1,500 to about 10,000 nanometers to being within a range from about 300 to about 1,500 nanometers.

17. The system of claim 14 wherein said transmitter is configured to change the carrier wavelength of each of said at least two discrete optical carrier signals in a random manner.

18. The system of claim 14 wherein said transmitter is configured to change the carrier wavelength of each of said at least two discrete optical carrier signals in a programmed manner.

19. The system of claim 14 wherein said transmitter is configured to embed control bits into at least one of said discrete optical carrier signals for communicating future changes in carrier wavelengths to said receiver.

20. The system of claim 14 wherein said receiver is configured to decode said control bits and to receive the changed optical carrier signals including changed carrier wavelengths.

21. The system of claim 1 wherein said transmitter comprises a member of the group consisting of a tunable laser, a tunable Fabry-Perot filter, a tunable Mach-Zehnder filter, an active Bragg grating wave guide, and an acousto-optical filter.

22. The system of claim 1 wherein said receiver comprises a member of the group consisting of an interference filter, a dense wavelength division multiplexing interference filter, a wide-angle geometry (WAG) detector, a wavelength dispersive element, a Fabry-Perot filter, and a switchable diffraction grating.

23. The system of claim 1 wherein said transmitter is configured to transmit data using multiple data channels, each of said data channels having first and second ones of said discrete optical carrier signals.

24. The system of claim 23 wherein each of said multiple data channels includes a bandwidth greater than about 200 gigahertz.

25. The system of claim 24 including at least 32 data channels and having a system bandwidth of greater than about 6.4 terahertz.

26. The system of claim 23 wherein said transmitter is configured to multiplex said multiple channels into a single beam.

27. The system of claim 23 wherein said transmitter is configured to multiplex said first ones of said carrier signals for each of said data channels into a first beam and said second ones of said carrier signals for each of said data channels into a second beam.

28. A wavelength modulated optical communication based fiberless optical communication system comprising:

multiple transmitters each configured to encode information into at least two discrete optical carrier signals;

multiple receivers each configured to receive and decode the information from said at least two discrete optical carrier signals;

multiple user ports, each including at least one of said multiple receivers; and

multiple hubs, each configured for transmitting and receiving data with at least two of said multiple user ports.

multiple repeaters each configured to receive, amplify, and route the optical signal to at least one member of the group consisting of other repeaters, hubs, and user ports.

29. A method for free space communication of information comprising:

encoding the information into at least two discrete optical carrier signals;

transmitting said encoded carrier signals;

receiving said encoded carrier signals; and

decoding the information from said carrier signals.

30. The method of claim 29 wherein said encoding comprises encoding digital information.

31. The method of claim 30 wherein said encoding digital information comprises encoding a high amplitude optical pulse at a first carrier wavelength to correspond to a logical 1, and encoding a high amplitude optical pulse at a second carrier wavelength to correspond to a logical 0.

32. The method of claim 29 further comprising:

multiplexing said at least two discrete optical carrier signals into a single beam; and

demultiplexing the single beam into said discrete optical carrier signals.

33. The method of claim 29 further comprising:

multiplexing a plurality of data channels into a single beam, each of said data channels having first and second ones of said discrete optical carrier signals; and

demultiplexing said single beam into said first and second ones of said discrete optical carrier signals.

34. The method of claim 29 further comprising:

multiplexing a plurality of data channels into first and second beams, each of said data channels having first and second ones of said discrete optical carrier signals, said first beam including said first optical carrier signals of each of said data channels, and said second beam including said second optical carrier signals of each of said multiple data channels; and

demultiplexing said first and second beams into said first and second optical carrier signals of said data channels.

35. The method of claim 32 wherein said multiplexing and said demultiplexing comprise dense wavelength division multiplexing.

36. The method of claim 29 wherein each of said at least two discrete optical carrier signals comprises a carrier wavelength in the range of about 300 to about 10,000 nanometers.

37. The method of claim 29 further comprising changing the carrier wavelength of each of said at least two discrete optical carrier signals to another wavelength.

38. The method of claim 37 wherein a first pair of carrier wavelengths, λi and λj, are changed to a second pair of carrier wavelengths, λk and λl, wherein $(\lambda k-\lambda i)/(\lambda k+\lambda i)<0.5$.

39. The method of claim 37 wherein a first pair of carrier wavelengths, λi and λj, are changed to a second pair of carrier wavelengths, λk and λl, wherein $(\lambda k-\lambda i)/(\lambda k+\lambda i)>1$.

40. The method of claim 37 wherein said changing comprises changing in a random manner.

41. The method of claim 37 wherein said changing comprises changing in a programmed manner.

42. The method of claim 37 wherein said encoding comprises embedding control bits in the information for communicating future changes in the carrier wavelengths to a receiver.